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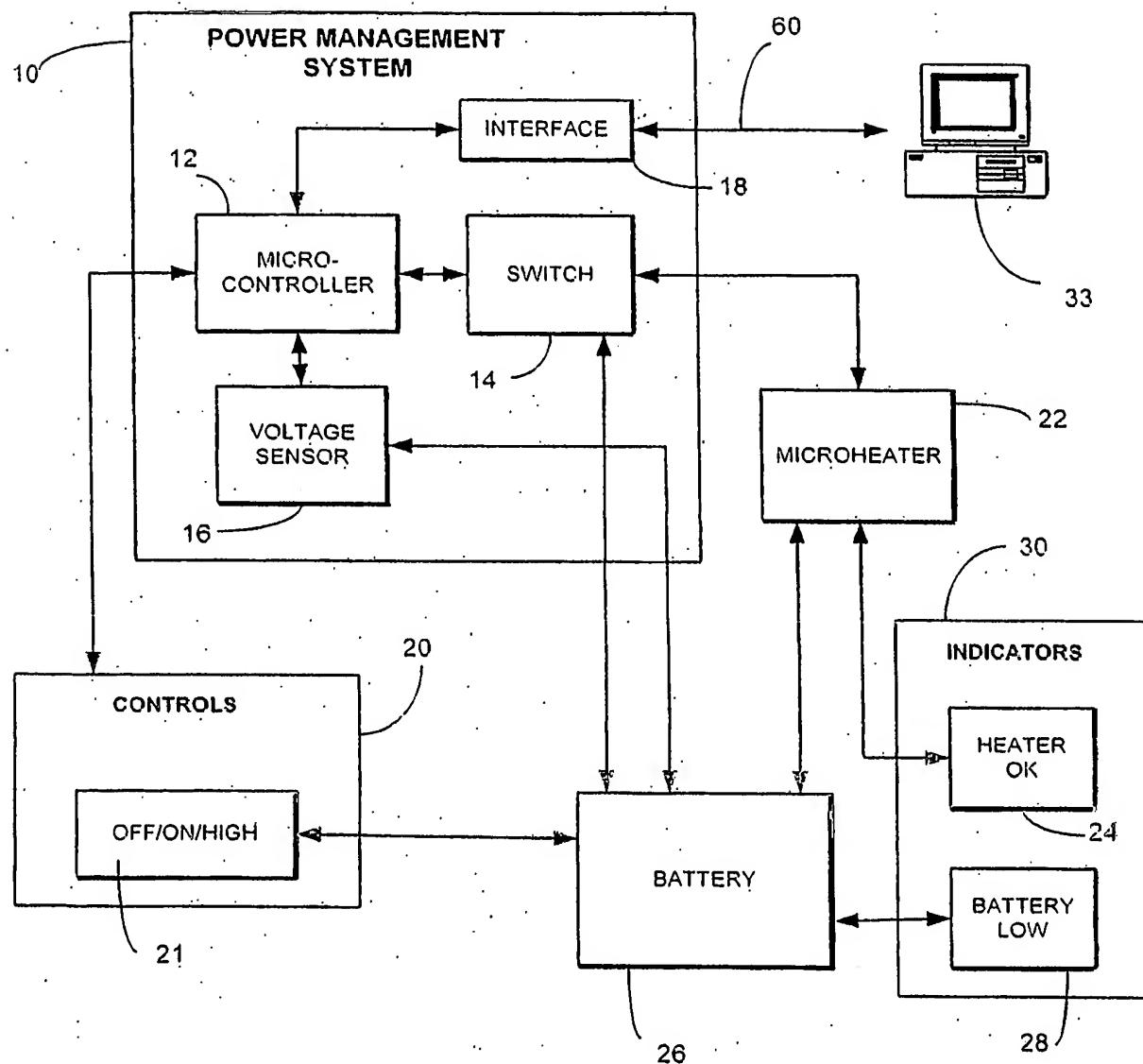


FIGURE 1

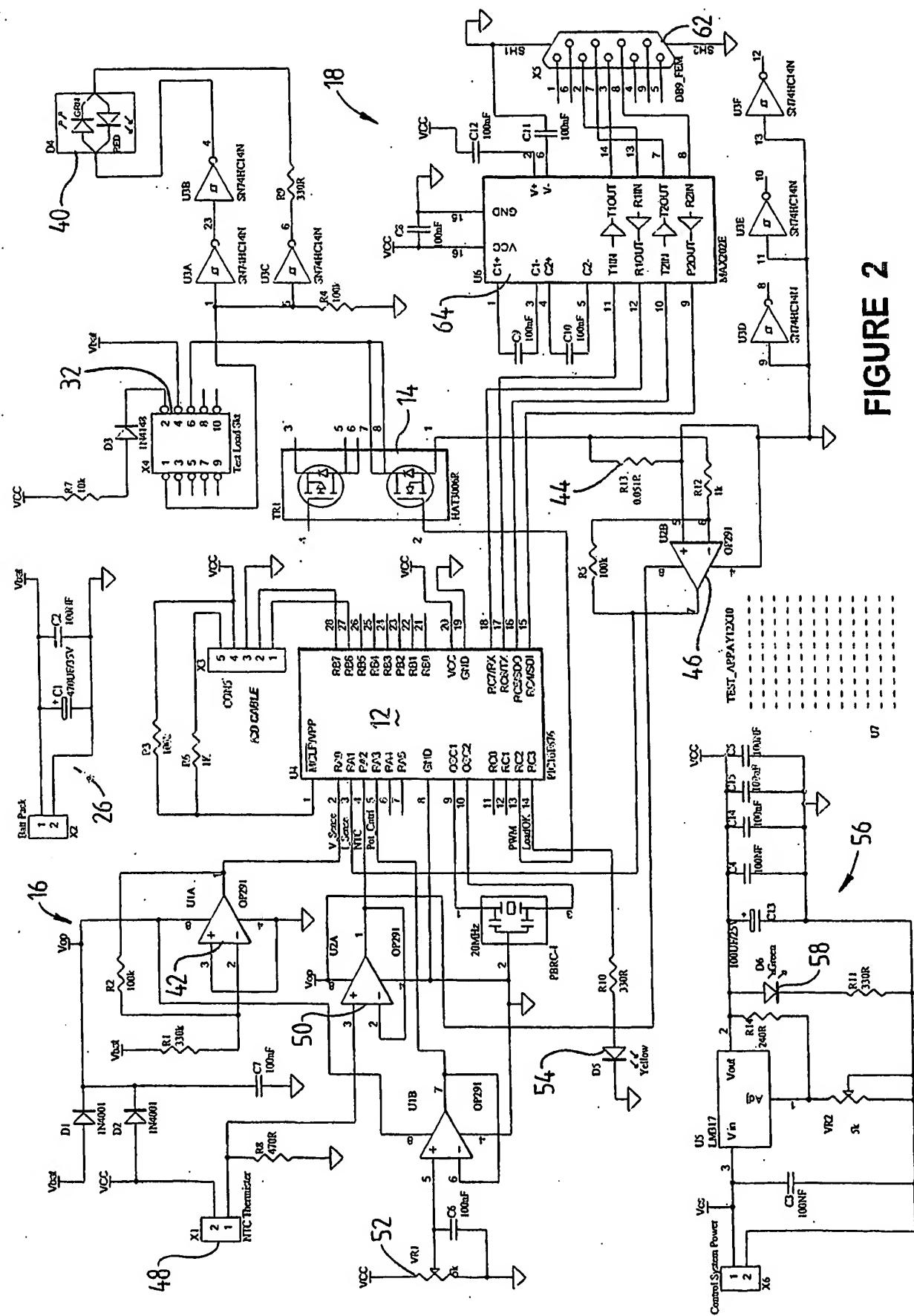
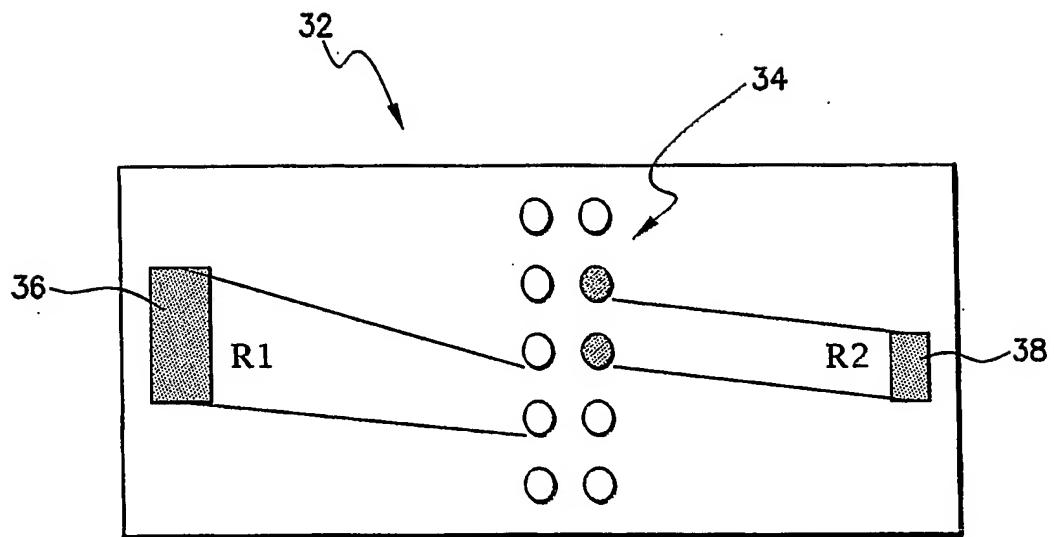


FIGURE 2

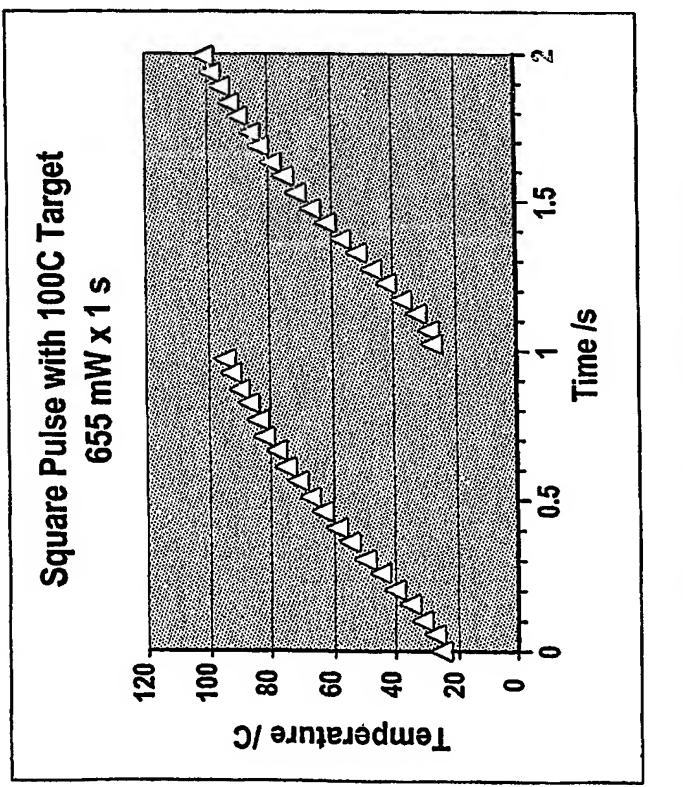
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**FIGURE 3**

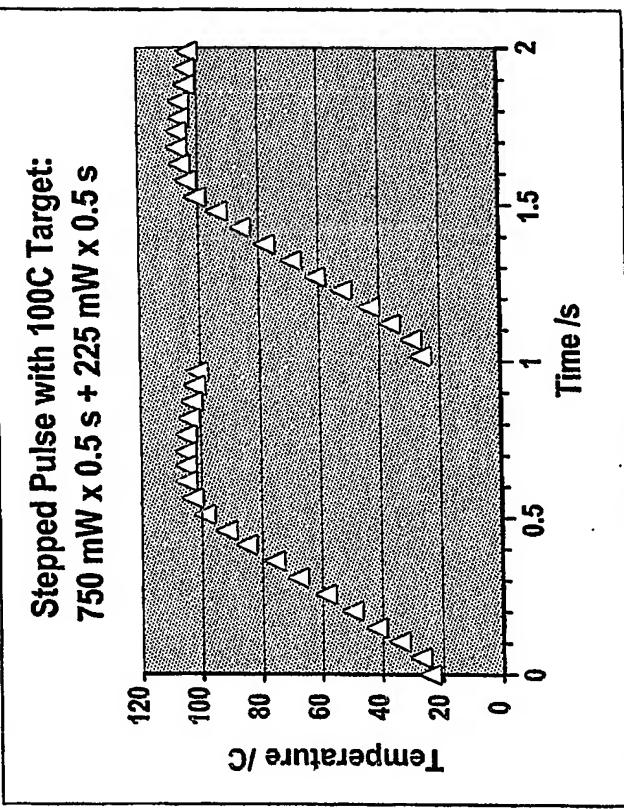
Temperature Measurements

Energy efficiency of simple and compound pulses

Target temperature 100C, duration 1s



Energy Cost: 655 mJ/pulse



Energy Cost: 485 mJ/pulse

25% energy saving, temperature maintained longer

FIGURE 4

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Performance: Delivery Rates

0603

4R7

2 x AA

3V

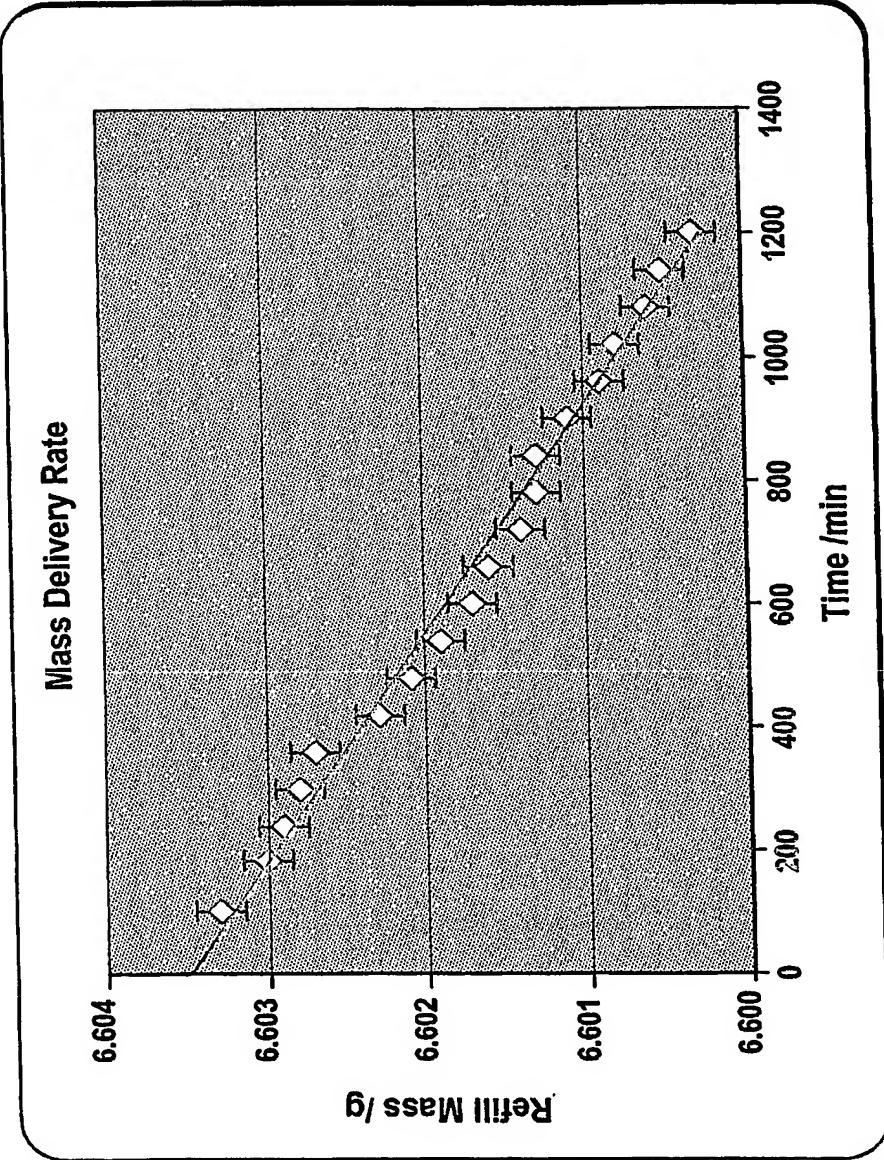
 $\tau_{on} = 0.3\text{ s}$ $\tau_{pulse} = 1.7\text{ s}$ $\tau_{cycle} = 60\text{ s}$

% Pulse = 50%

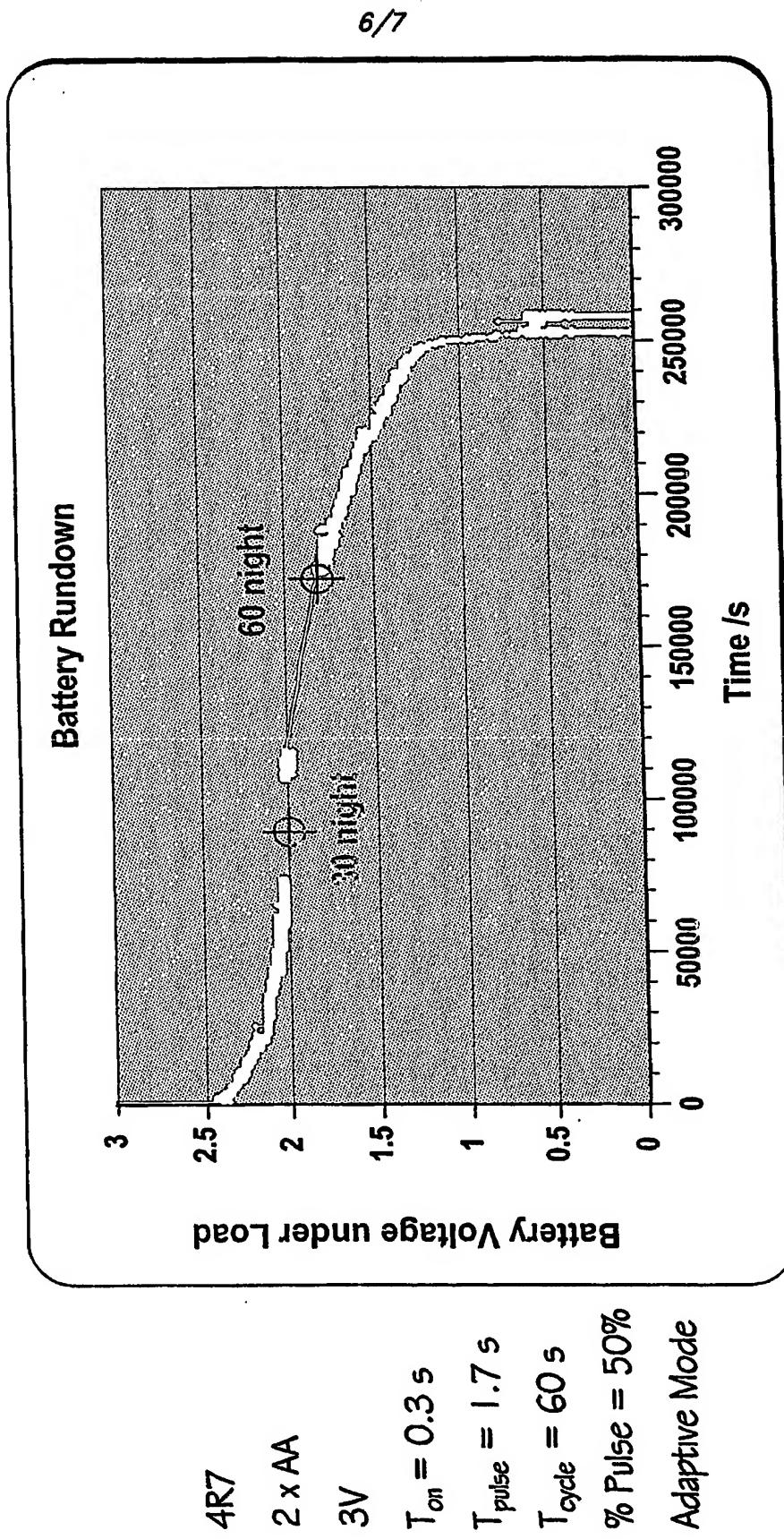
Adaptive Mode

80 μm wick

100% 51264

Delivery Rate = 160 $\mu\text{g}/\text{hr}$ **FIGURE 5**

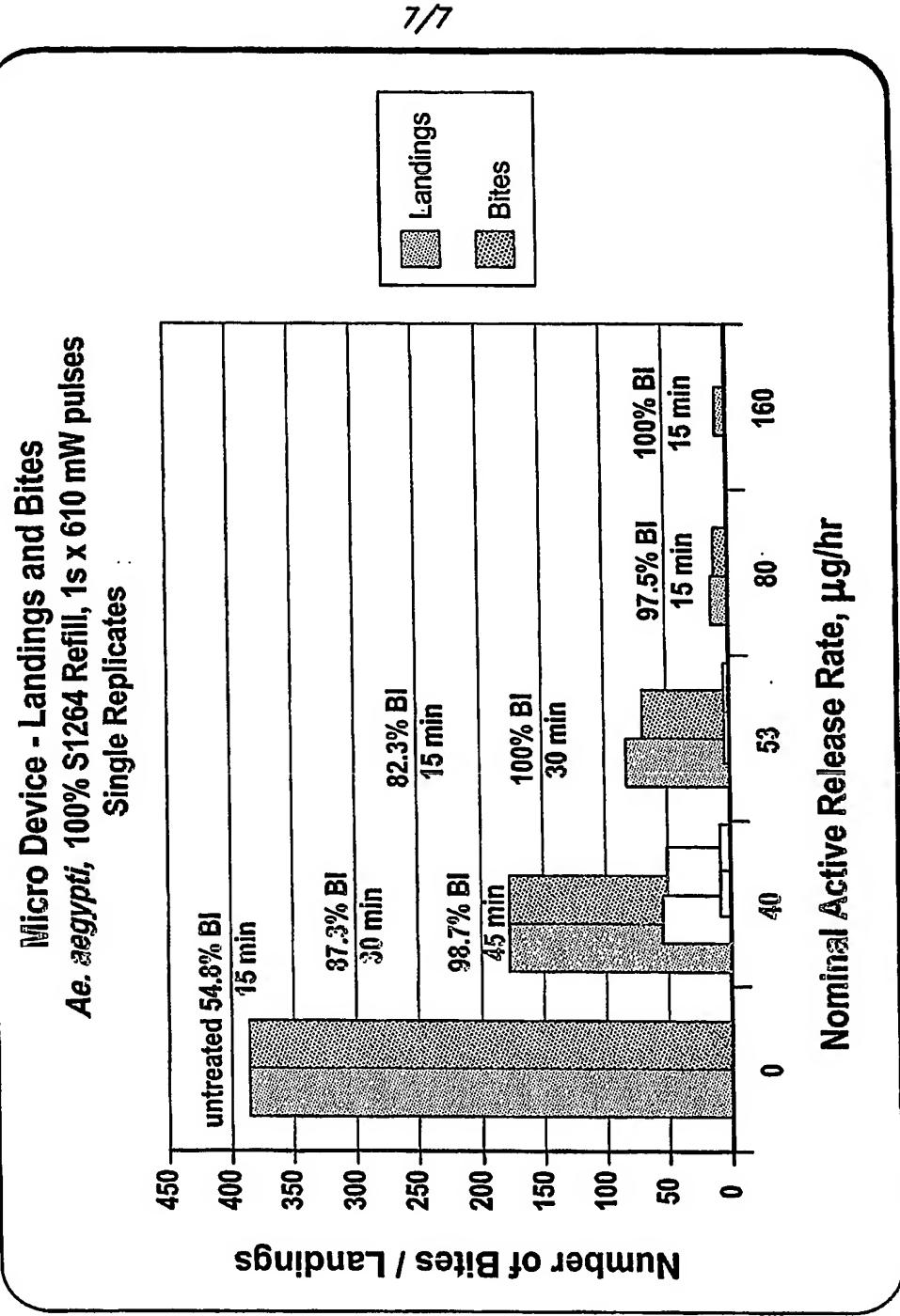
Performance: Battery Lifetime



2 x AA quality alkaline batteries give
1 - 2 months performance at 50 $\mu\text{A}/\text{hr}$

FIGURE 6

Performance: Bioefficacy



50 $\mu\text{g/hr}$ = 1 x 25 pulse per 3 min 12s
 90% bite inhibition in 15 min (5 replicates)

FIGURE 7